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Varietal Description of B1215 Two-Row Spring Barley

Origin and breeding

B1215, tested as TR 930, 2B82-8529, and BA8529, is a two-row spring barley developed by Busch Agricultural Resources, inc., Fort Collins, Colorado. It is derived from the cross Klages/RPB78-456 made in 1979. The F_1 seed was bulked and grown in a greenhouse in 1980. An F_4 head row derived from a single F_3 plant was selected in Alberta in 1981. Malting quality tests on remnant F_4 head row seed assisted in the selection of an F_5 seed increase plot that was grown at Christchurch, New Zealand in 1981. The New Zealand increase plot was harvested, bulk threshed, and entered in first year yield trials grown at Irricana, Alberta as an F_2 derived F_6 bulk, under the experimental line number 2B82-8529. This line was advanced to second year yield trials in 1983. From 1984 to 1986 it was tested in Canadian regional trials as TR 930. Purification of B1215 was initiated in 1985 with 96 head rows being grown at Berthoud, Colorado and 88 head rows selected to be bulked for breeder seed. The selection criteria used in developing this variety were agronomic and malting quality. Additional selection was done in 1986 with 96 head rows grown, of which 83 were selected and bulked for breeder seed.

Varietal characteristics

Plant characteristics

Coleoptile color: green

Juvenile growth: intermediate attitude

Leaves: medium green, 10.8 mm wide; 24.5 cm long; lower leaf sheath green and glabrous; glabrous blade

Flag leaf: medium green with slight waxy bloom; 9 mm wide; 12 cm long; attitude upright to ninety degree angle from stem; purple auricles

Stem: slightly waxy; v-shaped collar; straight neck; five nodes on stem; 2.5 mm thick; grass green

Plant height: medium; 2 cm shorter than Klages; 1-2 cm shorter than Harrington

Heading date: mid-season; 1 day earlier than Klages; similar to H[illegible]n

Tolerance to d[illegible] good

Resistance to straw breaking: good

Resistance to neck breaking: good

Resistance to shattering: fair

Disease reactions: susceptible to loose smut (*Ustilago nuda*), stem rust (*Puccinia graminis*), scald (*Rhynchosporium secalis*), and Septoria leaf blotch (*Septoria passerinii*), moderately susceptible to root rot (*Helminthosporium sativum*) and net blotch (*Helminthosporium teres*), and moderately resistant to covered smut (*Ustilago hordei*), and black semi-loose smut (*Ustilago nigra*)

Spike characteristics

Type: two-row

Shape: strap; mid-dense; long; no overlapping lateral kernels

Attitude: nodding

Lemma: rough awns; long; no hairs; purplish tip on awns

Glumes: more than half of lemma in length; long hairs confined to band; awns equal to length of glume; rough awns; purplish tip; empty glumes are rounded

Stigma hairs: many

Rachis: slightly tapered; numerous hairs; curved; first rachis internode

Spike emergence: partly enclosed in upper leaf sheath or slightly emerged from leaf sheath

Kernel characteristics

Type: covered; rough-awned

Size: medium length and width

Lateral veins: no barbs

Aleurone color: yellow

Lemma veins: purplish; glabrous

Hull: wrinkled lemma and palea

Rachilla: mid-long; no abnormal rachillas; long hairs

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Basal marking: horseshoe depression

Protein content: intermediate

Quality: preliminary data indicate good malting quality

Variants

Less than 0.5% taller (2-6 cm) plants may be encountered in subsequent generations

Performance and adaptation

B1215 is a high yielding, good agronomic barley that is equal to or exceeds standard varieties in the two-row barley growing areas. It is susceptible to the same leaf diseases as Harrington and is one to two days later maturing than Harrington. This variety is adapted to barley growing areas of Alberta and Saskatchewan.

Maintenance of breeder seed

Busch Agricultural Resources, Inc., Ft. Collins, Colorado

Canadian distributor

Alberta, Saskatchewan and Manitoba Wheat Pools

Recommended by

Prairie Registration Recommending Committee for Grain

Table 1. Yield (kg/ha) of B1215 and check varieties, Western Co-operative two-row barley trials, 1985-1987*

Years	Variety	Black Zone	Brown Zone	Black-Grey Zone	Overall
1985-86	Harrington	5940	6090	5490	5880
	Klages	5890	5650	5270	5610
	Ellice	6050	5720	5440	5730
	Abee	6340	6120	5590	6030
	B1215	6250	5970	5430	5890
1985-87	Abee	6010	5650	5630	5750
	B1215	5920	5520	5530	5640

* Locations were:
Black Zone: Brandon, Glenlea, Indian Head, Melfort, North Battleford, Portage la Prairie
Brown Zone: Acme, Elrose, Irricana, Lethbridge, Regina, Saskatoon, Scott, Swift Current, Watrous
Black-Grey Zone: Beaverlodge, Calmar, Fort Vermilion, Lacombe, Provost
Others: Prosper, North Dakota; Guelph, Ontario; Langdon, North Dakota; Ottawa, Ontario

Table 2. Summary of agronomic performance of B1215 and check varieties, Western Co-operative two-row barley trials, 1985-1987

Years	Variety	Heading (days)	Maturity (days)	Height (cm)	Lodging (1-9)	Test wt. (kg/hl)	1000 k (g)
1985-86	Harrington	55.4	94.5	73	3.5	65.4	44.8
	Ellice	56.9	95.2	78	2.7	66.0	44.2
	Abee	55.7	94.8	73	5.4	66.8	44.5
	B1215	55.6	96.3	72	3.0	66.6	43.2
1985-87	Abee	56.7	95.1	72	4.0	66.0	44.0
	B1215	56.7	96.2	70	2.8	66.2	42.7

Table 3. Summary of agronomic performance and yield (kg/ha) data of B1215 and check variety, private trials, 1983-1988**

Variety	Yield			Heading (days)	Maturity (days)	Height (cm)	Lodging (1-9)	1000K (g)
	Alta./Sask.	Man.	Overall					
Harrington	5760	5790	5770	57	91.4	78	1.8	39.2
B1215	5950	6720	6160	57	92.9	76	1.9	39.4

** Locations were: Alberta: Olds, Irricana, Enchant
Saskatchewan: Watrous, North Battleford, Outlook
Manitoba: Portage la Prairie

Table 4. Yield (kg/ha) of B1215 and check varieties, Saskatchewan Grain Crops Committee Trials, 1988***

Variety	Area 1	Area 2	Area 3	Area 4
Harrington	2359	2557	2794	2530
Ellice	2005	2404	2623	2176
B1215	2170	2275	2990	2353

*** Locations were: Area 1: Assiniboia
Area 2: Alameda, Kernan
Area 3: Canora, Kelvington, North Battleford, Wakaw, Wynard, Jedburgh
Area 4: Shellbrook, Codette

Table 5. Yield (kg/ha) of B1215 and check variety, Alberta Regional Trials, 1988****

Variety	Irr.	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Prov.
Harrington	5438	3203	5913	3741	5418	5188	3856	4805
B1215	5438	3107	6327	4115	6231	5396	4126	5093

**** Locations were: Irrigation: Lethbridge, Brooks, Bow Island, Strathmore
Area 1: Warner, Vulcan
Area 2: Acme, Drumheller, Trochu
Area 3: Vermilion, Stettler, St. Paul, Vegreville
Area 4: Olds, Lacombe, Ada, Ellerslie, Westlock
Area 5: Lac La Biche, Breton, Beaverlodge, Fairview, Dawson Creek, Fort St. John, Valleyview
Area 6: Manning, Keg River, High Level, Fort Vermilion

Table 6. Disease reactions of B1215 and check varieties, Western Co-operative two-row barley trials, 1985-86

Variety	Common Root Rot (%)		Smut (% infected)			Net Blotch			Scald	Septoria
	Sask.	Scott	nuda	hordei	nigra	102	858	857		
Harrington	23	40	96	33	22	9.5	10	8.5	S	S
Ellice	52	49	84	16	29	4.5	8	7.5	S	S
B1215	47	75	91	9+	19+	8.5	10	7.0	S	S

* One year only

Table 7. Malting quality of B1215 and check varieties, Western Co-operative two-row barley trials, 1985-1987

Years	Variety	Plump (%)	TKW	Protein (%)	F.Ext (%)	70C (EXT)	F/70 (DIFF)	Sol (PRO)	Ratio (S/T)	D.P (L)	A.A. (D.U.)
85/86	Harrington	93.1	41.2	12.3	79.0	75.5	3.4	5.24	43.8	144	58.6
	Ellice	92.9	42.0	13.0	77.8	74.9	2.9	5.60	44.8	148	53.5
	B1215	92.3	40.8	12.8	78.7	75.0	3.7	5.69	45.7	154	59.6
85-87	Ellice	93.3	41.6	13.2	77.4	74.3	3.1	5.64	44.3	155	56.7
	B1215	92.9	40.3	13.0	78.4	74.9	3.5	5.8	45.8	160	67.2

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